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UNITED STATES MARINE CORPS
MARINE CORPS COMBAT DEVELOPMENT COMMAND
QUANTICO, VIRGINIA 22134-5001

Information Operations

Future Marine forces must remain capable of operating effectively across the full range of operations, against a myriad of potential adversaries. ***A Concept for Information Operations*** focuses on a 21st Century information environment of unprecedented complexity, and seeks to identify the essential information operations activities that we must pursue to enable and enhance our warfighting functions of command and control, fires, maneuver, logistics, intelligence, and force protection. This concept is intended to promote discussion and to serve as the catalyst for the process of research and experimentation through which new required operational capabilities will be established. Future developments in information operations capabilities -- in tandem with improvements in other warfighting areas -- will be leveraged by forward deployed commanders to enable the decisive actions envisioned by ***Expeditionary Maneuver Warfare.***

E. HANLON JR.
Lieutenant General, U.S. Marine Corps
Commanding General

A CONCEPT FOR INFORMATION OPERATIONS

Introduction

The Marine Corps warfighting philosophy of maneuver warfare seeks to shatter the enemy's cohesion through a series of rapid, violent and unexpected actions that create a turbulent and deteriorating situation with which he cannot cope. Marine Corps information operations (IO) support maneuver warfare through actions that use information in support of our National Military Strategy to deny, degrade, disrupt, destroy, or influence an adversary commander's methods, means or ability to command and control his forces and inform target audiences through informational activities. In the future, IO conducted by Marine Air Ground Task Forces (MAGTFs) will consist of battlespace shaping, force enhancement, and force protection activities. Information operations will enhance the ability of the MAGTF to project power during peace and war and will complement and facilitate the traditional uses of military force. MAGTFs will execute IO to enable and enhance their ability to conduct military operations consistent with our capstone concept, *Expeditionary Maneuver Warfare (EMW).* The goal is to support our nation's military strategy across the full range of military operations.

Emerging concepts for the application of information operations are abundant and varied. Because information operations are conducted within and beyond the traditional military battlefield, the range of new ideas sometimes feature information operations as a supporting function and sometimes as a wholly new domain of warfare. Our concern is the potential that, once a military becomes entrenched in sophisticated technologies, it could lose sight of military strategic thinking and those timeless combat skills that are needed to win battles. Yet, we will not ignore the impact of new technology and the evolving global environment in which we will operate. Our emphasis will be on recognizing the potential for information operations to be a critical enabler and integrating it into an expanded operational planning mindset. Information operations, whether shaping the battlespace to deter conflict or enabling decisive maneuver, must be recognized as an essential and potentially dominant action.

Information operations at all levels must be carefully planned and fully integrated. MAGTFs must be organized, trained, and equipped to conduct IO in support of a national or theater campaign and in direct support of combat operations. Information Operations is not a warfighting function. Information Operations is an integrating concept that facilitates the warfighting functions of command and control, fires, maneuver, logistics, intelligence, and force protection. It is not simply another "arrow" in the MAGTF commander's quiver. It is, rather, a broad-based integrative approach that "makes the bow stronger." Thus, the focus of Marine Corps IO will be upon the information-oriented activities that will best support the tailored application of combat power.

A Changing World

The world is going through dynamic changes; events that will fundamentally change the future operational environment in which Marine forces will deploy, respond to crisis, and fight. These changes have been initiated by many factors: the changing global environment, trends in technology, the emergence of non-traditional adversaries, and the Marine Corps' increasing involvement in humanitarian assistance and peace operations. Each of these factors will contribute to a new, and increasingly complex, operational environment.

Global Environment. The current trend in global politics is toward increased fragmentation: the breakup of multinational states into smaller, national groups with regional power centers having narrower communities of interest. Fragmentation is rarely a smooth process, as existing states often resist the loss of authority, the drawing of new boundaries, and the creation of new associations and coalitions between both state and non-state actors. As a consequence, the interests of different groups invariably overlap and conflict, making the satisfaction of all concerned parties a difficult goal to attain. Fragmentation has significantly complicated and transformed the face of global politics and this trend is likely to continue in the future.

A second major trend in global relations is integration, or "interconnectedness." Even as the world fragments politically, it is becoming increasingly connected through information networks and the resulting development of unique collaborations based upon common economic goals. Driven principally by the information revolution, the widespread dissemination of culture, ideas, goods, and services on a global scale will continue to have an integrative effect. Communications technologies will provide near-instantaneous worldwide connectivity and access to goods and services, encouraging global markets and broad economic integration. Global communications will also accelerate and expand the world's collective awareness of events and issues, and will make it increasingly difficult for totalitarian regimes to hide behind their traditional shrouds of secrecy and disinformation. However, the expanded information domain can also empower the adversary who learns to exploit it to his advantage.

Neither of these trends exists in isolation. In fact, they tend to interrelate: each fostering the growth and expansion of the other. Increased political fragmentation creates greater need for interconnectedness; and, in turn, greater interconnectedness produces increased desire for autonomy, or political fragmentation. Together, these trends point toward an increasingly dynamic and complex international environment.

Trends in Technology. Rapid advances in technology have produced an incredibly complex information environment. Routine decisions and interactions have been defaulted to computers in the pursuit of simplicity and speed. Global communications are ubiquitous -- e.g. the Internet, satellite/cellular telephones, direct-broadcast television -- and have expanded the collective awareness of events, issues, and concerns. Connectivity through global communications will ignite passions, spark perspectives, crystallize beliefs, and compel people, nations, organizations, and institutions everywhere to think and act in accordance with the perspectives, and often biases, of those with whom they interact. While much of this phenomenon may be benign and beneficial, it renders users exploitable.

The United States is at the forefront of exploiting technology to harness the explosive potential of rapid collection, processing, dissemination, and use of information. The U.S. economy, social and civil structures, and governments at all levels have become dependent upon the rapid and accurate flow of information. America exerts extraordinary world influence through its pervasive media and entertainment industries, yet is influenced by similar pressures exerted from outside its borders. The global information infrastructure electronically links organizations and individuals around the world and is characterized by a merging of civilian and military information networks and technologies.

The U.S. military no longer drives the development of information technologies. Commercial off-the-shelf technologies are increasingly important to maintaining the U.S. Armed Forces' technological edge. However, these same technologies are readily available to potential adversaries, adversaries that will be increasingly inventive in adapting these technologies to meet their own operational needs. Although technology may create missions and functions for Marine forces that are not yet imagined, it is not a panacea and Marines must seek to discover and exploit these new possibilities through a program of aggressive experimentation and operational adaptation.

The threats to the information infrastructure are genuine, worldwide in origin, technically multifaceted, and growing.

Developments in information technology revolutionize how nations, organizations, and people interact. The rapid diffusion of information challenges the relevance of traditional organizational and managerial principles. The military implications of new organizational sciences that examine networked vice hierarchical management models are yet to be fully understood. Information Age technology and the ideas it fosters will greatly influence how military forces organize, equip, train, fight, protect their forces, and assist in resolving conflict.

Threats to the information infrastructure come from those motivated by military, political, social, cultural, ethnic, religious, economic – and even personal gain. The globalization of networked communications creates new vulnerabilities, as does the world's increasing dependence upon high volumes of timely, accurate information. The MAGTF's increasing linkages to the expanding information infrastructure from points around the world will expose it to threats from a variety of new and different sources on a continuing basis, even during periods of relative peace. Yet, these potential vulnerabilities can also translate into opportunities due to the potential for a future adversary to have a similar dependence upon information and information systems.

The information revolution will present both dangers and opportunities. These dangers may be exacerbated by a belief that technology can solve all problems. Used unwisely, technology can

be a part of the problem -- contributing to information overload, micro-management and the dangerous illusion that certainty and precision in war are not only desirable but attainable. Furthermore, all systems that support command and control are potentially vulnerable to enemy action -- not just to the physical destruction of facilities and personnel, but also to exploitation and disruption through misinformation, spoofing, hacking, jamming, and other aspects of information warfare. Used wisely technology is part of the solution, providing new opportunities. Opportunity lies in "gaps" found in potential adversaries' systems, which the MAGTF will seek to aggressively exploit. Opportunity also lies in the combination of technology and operational wisdom to truly integrate and optimize our warfighting functions, achieving tactical dominance through advances in speed, mobility, fire support, communications, surveillance, and intelligence that the adversary cannot match. Opportunity lies in influence, winning the battle of wills without the use of force.

Future Adversaries. Although the United States currently enjoys relative peace and security, the strategic environment remains complex and potentially dangerous. Although the threat of global war has receded, Marines will still face a range of traditional and non-traditional threats in the future. Ethnic, economic, social, and environmental strains will continue to cause instability and raise the potential for violence. Many countries will retain the capability to threaten U.S. interests abroad, and may seek to initiate a major conflict that would require a large-scale U.S. response. In addition, there will be many other "lesser threats" that will seek to engage us across the range of operations that fall short of war. These adversaries will generally possess a regional or national level of influence, and will likely have access to lethal technologies generally available on the global market. Some examples include terrorists, drug cartels, computer hackers, and rogue nations -- who might act independently in their own self-interest. Using new technologies and readily available information, these threats will have the capability to threaten the U.S. across geographic borders through networks and through the proliferation of weapons of mass destruction. They may avoid direct military confrontation and attack selected vulnerabilities in order to achieve a high payoff for little cost, or they may attack to simply gain media exposure.

Future Missions. The U.S. maintains a wide range of humanitarian and global security responsibilities, and these responsibilities will continue well into the future. Marines can expect to be tasked to provide humanitarian assistance after a disaster; to provide peace support for nations that seek a secure environment to peacefully develop; to provide peace enforcement to separate warring factions; to create conditions for the peaceful resolution of a crisis; and finally, to project combat power when resolving a crisis that requires the threat, and/or use, of force. As a crisis develops, Marines may find themselves executing more than one mission at a time, or multiple missions in rapid sequence. They may be asked to provide relief to civilians while keeping belligerents separated, defending U.S. interests, and enforcing international law. To project power and influence, Marine forces employ for presence, engagement, and response. Each of these employment concepts will have a strong informational component. The on-scene presence of the forward-deployed MAGTFs – and their proximity and access to potential crisis areas – will establish them as vital operational and informational "cornerstones" for follow-on forces acting as part of a national and theater crisis response.

Information Operations

Information operations involve actions taken to affect adversary decision processes and information systems while defending our own. Information, as data, is a key component of combat, communications and intelligence systems. Information transformed into knowledge and understanding is a key component of command and decisionmaking processes. Information, as media, influences perceptions, attitudes, and crystallizes beliefs. The scope of information operations is expansive and permeates strategic through tactical operations. IO, in its many forms, is applicable across the full range of military operations.

At the strategic level, IO will be included in the myriad of activities directed by the National Command Authorities (NCA) to achieve national objectives by influencing or affecting key facets of an adversary's power. As a forward-deployed element of our national power, the MAGTF could be expected to facilitate, enable or conduct IO at the operational and tactical levels to achieve or support NCA, Commander's-In-Chief (CinC) and Joint Force Commander (JFC) strategic/operational objectives. This will require a high degree of coordination between all involved military, government, and non-government agencies.

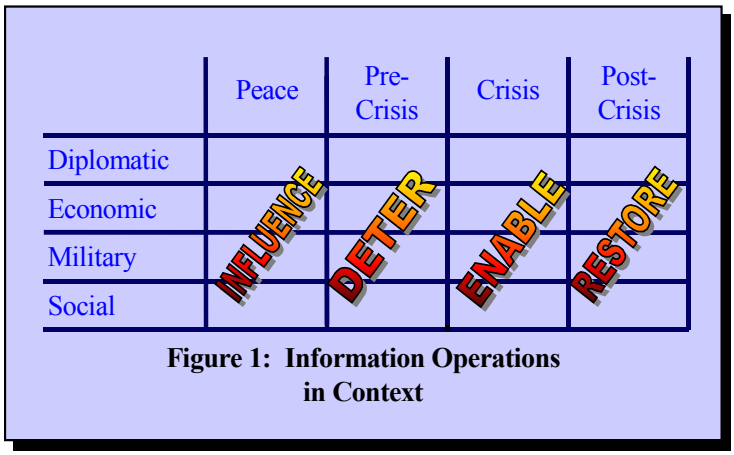

Figure 1: Information Operations in Context

Peacetime IO can be used to influence our adversaries through regional engagement and influence operations to help shape the strategic environment [see Figure 1]. Additionally, it can be used to impart a clearer understanding and perception of our mission and its purpose. In the pre-crisis stage, IO can help deter adversaries from initiating actions detrimental to the interests of the United States or its allies. Carefully conceived, coordinated and executed, IO can make an important contribution to defusing crises, reducing the period of confrontation and enhancing diplomatic, economic, military, and social activities, thereby forestalling and possibly eliminating the need to employ physical force. In the crisis stage, IO can be a force multiplier. During combat operations, IO can help shape the battlespace and prepare the way for future combat actions to accomplish the MAGTF's objectives. Once the crisis is contained, IO will help to restore peace and order, and allow the successful termination of military operations. There is no doubt that in the future our MAGTFs will be expected to participate in the overall IO effort across the full spectrum of military operations. IO conducted by Marine Air Ground Task Forces (MAGTFs) will primarily consist of battlespace shaping, force enhancement, and force protection actions, and any other information-oriented activity the MAGTF can leverage to better facilitate the application of combat power.

Ultimately, the nature of war remains unchanged. We will depend upon information operations, in its many forms, to be a critical enabler of our timeless warfighting principles. New information

technologies will allow us to build command, control, and communication systems that can maintain an overwhelming operational tempo through rapid planning and execution. It will allow us seize the information initiative, demonstrating our resolution and clearly explaining our positive intentions to the world audience. It will enhance our ability to force future adversaries to conform to our will by reducing his ability to control information and by reducing his political and moral strengths. We will use information and influence to deter conflict, build alliances, and enhance our total knowledge of the battlespace. When deterrence fails, we will use information to force our adversaries to fight the battle of our choosing, being ever mindful of our responsibilities to win in combat, yet create an environment for lasting peace and stability.

Battlespace Shaping. The U.S. seeks to shape the international environment through a variety of means, including diplomacy, economic cooperation, international assistance, security assistance, and arms control. These efforts use power, information, and influence to achieve national objectives. In peacetime, our deployed Marine Expeditionary Units demonstrate our national resolve through forward presence and Marines enhance regional stability through cooperative engagement with our allies in exercise, exchange, and informational programs. During crisis, MAGTF shaping operations must be linked to U.S. strategic objectives and consistent with on-going regional engagement activities. During conflict, MAGTF shaping operations focus on setting those conditions necessary for operational and tactical success.

Our operations will always be consistent with the national interest. Whether demonstrating national commitment through forward presence, exercising with allies and strategic partners, engaging in armed combat, or providing relief to victims of natural catastrophe, we will continue to support our Nation's objectives and policies. IO, used in the context of battlespace shaping, ensures the purpose of our mission is clear to both the local and the worldwide audience.

We recognize that we will always be watched by the world. Our efforts will be observed, commented upon, and selectively portrayed to, and by, the world audience. Our actions will be perceived differently -- many times by viewers who may likely be biased. The perceptions created by our operations will result in changes to political realities that may, in turn, affect our assigned mission. Information is a powerful component of battlespace shaping. Not only do our actions matter, but the perceptions that our actions create matter. Small, apparently local actions may have strategic consequences. For example, an "event" at a single checkpoint can change the relationship between the MAGTF, local residents, allied partners, and non-governmental organizations and -- depending upon how the event is portrayed through the media -- can dramatically sway public opinion either for, or against our actions. In the battlespace of the future, all Marines must be aware of their strategic responsibilities.

Our operations will likely involve coordinated activities with the armed forces of other nations in a multinational effort, and our future allies will all have different capabilities, equipment, procedures, and values. Our operations must carefully consider the implications of actions taken by members of the multinational force. The human dimension of coalition operations must be considered, and must be used to effectively form and employ the force.

We recognize that we will operate in uncertainty. All military operations, from major theater wars to the complex contingencies encountered in other expeditionary operations, will occur in an inherently uncertain and chaotic environment shaped by continuous human interaction. Civilian populations, organizations, and leaders will cause much of this uncertainty, and the commander must shape the battlespace within this context of unpredictability. Battlespace shaping helps commanders simultaneously meet their own operational requirements and their moral and legal responsibilities to civilians.

In the battlespace of the future, the integrated use of informational activities and fires, both lethal and non-lethal, to achieve a common purpose is essential. We recognize that the targeting means is secondary to achieving the desired targeting effect, as targets no longer reside solely in the physical domain but include the perceptions and actions of civilians, key leaders, and our military foes. Information can be used to positive purpose to achieve desired operational effects while mitigating the unnecessary loss of life.

During conflict, the MAGTF will necessarily focus on the battlespace's physical and informational aspects that effect decisive maneuver. However, we understand the use of information operations to shape the battlespace transcends the physical domain. It must also consider the political, cultural and moral aspects of the battlespace. As crisis blends into conflict, the defining point when operations change from peace support, to peace enforcement, or to conflict will become increasingly difficult to define. This ambiguous threshold to conflict is the no-man's land in the spectrum of conflict, still crisis perhaps but approaching conflict. It will require Marines to approach operations holistically, with an understanding of the historical underpinnings and cultural aspects of the crisis or conflict, an understanding of the ability of information and influence to achieve desired operational effects, and an understanding of their responsibilities to terminate conflict in a manner that will foster stability and goodwill.

Force Enhancement. Information has always been important in military operations. Networking and advances in computing power have allowed improved processing and display of intelligence and battlefield information. In many ways, the ability to obtain timely and accurate information has emerged as a critical aspect of command, control, strategic agility, and operational maneuver. The force that best controls, utilizes, and safeguards information and information systems, has always enjoyed a decided military advantage; this will not change.

As a force enhancer, information operations involve the integration of varied capabilities and activities into a coherent, seamless plan to achieve specific objectives. Human decisionmaking processes are the ultimate target. Guidance must be clearly established, support overall national and military objectives, consider the influence of other regional informational activities taking place outside the MAGTF, and include identifiable measures of effectiveness. A close and continuous relationship between information operations and intelligence support is essential.

The primary focus of MAGTF offensive IO activities will be at the operational and tactical levels of war. Actions will be oriented against command and control targets to disrupt or deny an enemy's use of information and information systems to achieve operational objectives. A principal focus of IO at this level is the enemy commander and his decisionmaking process. By

targeting the human element, we seek to affect the adversary's will to resist and destroy his military operational effectiveness. Integrated targeting to achieve the desired operational effects will combine influence, information, and weapon effects to shape the physical, electronic, and informational aspects of the battlespace.

'The first principle is that the ultimate substance of enemy strength must be traced back to the fewest possible sources, and ideally to one alone. The attack on these sources must be compressed into the fewest possible actions – again ideally into one.' *Clausewitz On War*

The mission and the MAGTF Commander's intent are paramount; all elements of MAGTF IO must work together to produce a synergistic effect. During conflict, the MAGTF may rely heavily upon electronic warfare, military deception, influence operations, and physical destruction to attack command and control, intelligence, and other critical information-based processes that directly impact an adversary's ability to conduct military operations. The MAGTF may rely on national-level agencies and other Service components for certain offensive IO-related capabilities - to include computer network attack, psychological operations, and the means to manage media attention on the operation.

Force Protection. The MAGTF commander will depend on information to plan operations and employ his forces. Information systems enable and enhance warfighting capabilities; however, increasing dependence upon these rapidly evolving technologies will create new vulnerabilities. Seabasing of the MAGTF simultaneously makes information assurance more robust but perhaps more difficult to provide due to network dependence. Risk management decisions will have to be made based on the anticipated requirements and information resources most needing protection. The integration of protection, detection, and reaction capabilities is needed to mitigate the effects of enemy action and environmental effects. It also will enable the necessary protection of information and information systems upon which the MAGTF depends to conduct operations and achieve its objectives. The criticality of the MAGTF commander's access to, and use of, the information environment will not go unnoticed by future adversaries. IO will enhance force protection by protecting and defending the information and information systems that the MAGTF depends on to conduct operations.

IO will integrate and coordinate policies and procedures, operations, personnel, and technology to protect information and defend information systems. Offensive action can be used to "pre-empt" or to respond to adversary IO capabilities. Defensive IO encompass four interrelated processes:

- *Information Environment Protection*. The MAGTF commander uses policies, procedures, and technologies to ensure freedom of action in the information environment. Risk management principles must be applied to ensure the most important systems are protected when they are most needed. Measures to ensure operational security are

continuously considered. The trade-offs between operational security, deception, public affairs, and psychological operations are reviewed.

- *Attack Detection*. The MAGTF must be able to rapidly detect adversary attempts to attack its information systems, and must be able to differentiate between the effects of adversary action and other phenomena such as weather effects, normal system outages, and operator error. This is essential to ensure effective capability restoration and attack response.
- *Capability Restoration*. The MAGTF requires redundant, resilient information systems that can withstand the effects of enemy action as well as environmental phenomena.
- *Attack Response*. The MAGTF commander can respond to attacks on his information systems by active and/or passive measures. Active measures seek to degrade or destroy the adversary's attack capabilities while passive measures attempt to mitigate the effects of adversary actions.

These activities are conducted in parallel to ensure timely, accurate, and relevant information access while denying adversaries the opportunity to exploit friendly information and information systems.

Support to Information Operations

Planning. Information operations planning must be continuous and incorporated within the framework of the Marine Corps Planning Process (deliberate and crisis action). It is conducted in alignment with the tenets of top-down planning, the single-battle concept, and integrated planning. This ensures unity of effort, while the warfighting functions (command and control, maneuver, fires, intelligence, logistic, and force protection) serve as the building blocks of integrated planning. Detailed, integrated planning is the key to successful IO, resulting in the orchestration of the warfighting functions to achieve the desired IO effects.

Planning activities are mutually supporting and intended to produce synergistic effects. Offensive IO, for example, can be used to support defensive IO throughout the range of military operations. The offensive and defensive uses of IO must be integrated to provide timely identification and response to potential threats to MAGTF personnel, information, and information systems.

Coordination. The global information environment is seamless, requiring information operations to be thoroughly integrated at all levels. The MAGTF will require robust, resilient connectivity with naval, joint, and coalition forces to plan, deconflict, coordinate, and measure the operational effects of IO. Since Marine forces will likely fight as a part of a joint force, the MAGTF will rely on national-level agencies and other Service components for certain IO capabilities. Additionally, the MAGTF will require the capability to "reach back" to the U.S. and "reach forward" to personnel or organizations already located in-theater to provide the commander with the ability to significantly increase his situational awareness.

MAGTF IO must be supported by the total force since not all IO activities that support the MAGTF are provided by the MAGTF. For example, computer network monitoring support may

be provided by the Marine Information Technology Network Operations Center (MITNOC) and intelligence support may be provided by the Marine Corps Intelligence Activity (MCIA). Marine Corps Reserve assets may provide Civil Affairs, and other, expertise.

Because MAGTFs may fight as a part of a larger joint force, their offensive, defensive, and informational IO efforts should support, and be coordinated with, the campaign plans of the geographic Commanders-in-Chief (CINC), joint force, and adjacent commands. The Joint Force Commander (JFC) may have standing IO procedures and perhaps a standing IO plan based on the CINC guidance for the theater of operations and the nature of the conflict. The joint force and component commanders in turn will develop their own IO plans in support of their respective objectives. These IO plans will be largely at the operational level. The MAGTF will integrate IO to support MAGTF mission requirements while supporting the JFC IO plan; in turn, the major subordinate commands will need to integrate IO actions appropriate for their level of command.

The Marine Corps component commander accomplishes the assigned mission by conducting Marine Corps component operations. Where IO matters are concerned, he will advise the JFC of the IO capabilities of his forces, make recommendations on the proper employment of Marine Corps forces, request additional IO support as required, and inform the JFC regarding the Marine Corps component's IO situation and progress. With respect to IO, the Marine Corps component commander focuses on those IO activities that will support future operations -- the next Marine Corps component mission -- and coordinates IO actions with other component commanders to achieve unity of effort for the joint force. The IO orientation of the Marine Corps component commander is *normally* at the operational level of war while the MAGTF commander is *normally* at the tactical level. Naturally, there will be some overlap.

Intelligence Support to IO.

Any new strategy must take into consideration the world's new political and demographic geography. The recognition of new and varied regional interests and an increased awareness of their antecedents are essential. The shaping and influencing of regional attitudes through security, peace support, and informational activities is a continuous task. We must expand intelligence support to accommodate a more finely tuned awareness of residual and emerging regional issues and critical centers of gravity. A powerful influence on intelligence is the requirement for truly insightful political-military and cultural intelligence, which will enable the development of meaningful themes and messages within the context of influence operations. Another powerful influence is the requirement to support both lethal and non-lethal targeting, with their collateral requirements for detailed analysis prior to deployment and for effective intelligence, surveillance, and reconnaissance to support timely post-mission assessments. Intelligence will remain fundamental. But, it must become sharpened and ready to respond to the time-limited crisis action planning requirements of the MAGTF. This means that intelligence must be forward-looking and anticipatory, conducting analysis when time is available prior to the contingency, and contemporary, in-tune with real-time and quickly evolving events.

Information operations will require broad-based intelligence support. Intelligence preparation of the battlespace (IPB) is a continuous process used to develop a detailed knowledge of the

adversary's use of information and information systems. Intelligence support for IO planning builds upon traditional IPB, and requires the following:

- a technical knowledge of a wide array of information, command and control, intelligence, and media systems
- an understanding of the potential adversary's political, social, and cultural influences
- an understanding of the adversary's decision making process
- an in-depth understanding of human factors, including the background of key adversary leaders and decision makers, to include motivating factors and leadership style

Intelligence support to IO-related force protection will require identification of the threat to MAGTF information and information systems. Knowledge of the threat -- adversaries, their intent, and capabilities -- is a key consideration in the risk management process. Counter-intelligence and counter-reconnaissance contribute directly to force protection by denying critical information to potential adversaries.

Many IO intelligence requirements require significant lead-time to develop collection sources, access, and databases. Potential intelligence collection sources should be developed as early as possible, therefore a clear statement of MAGTF intelligence requirements is essential. IO will require development of extensive intelligence analytical products in order to obtain a detailed knowledge of enemy cultural factors, and his use of information and information systems.

IO Requirements

- Educated Leaders

- Realistic, Challenging Training

- Intelligence Support

- Integrated Planning Process

- Secure, Reliable Information Systems

- Reachback Support Capability

Consequently, the role of intelligence in IO is continual, and on-going. Changes in attitudes, actions, operating patterns, and enemy information systems must be detected, analyzed, and reported to ensure that IO continues to achieve the desired operational effect. Assessment of ongoing IO activities is a crucial, and extremely challenging, responsibility of intelligence, as targets must be monitored to determine the effectiveness of the IO efforts. To achieve complete synthesis, IO must be incorporated into the MAGTF's intelligence, battle damage assessment, and targeting cycles. The impact of many IO actions may be difficult to measure, and indicators of success or failure must be carefully crafted in advance. Since IO will often not produce the same directly observable effects utilized for traditional battle damage assessment, IO execution will challenge the intelligence system to develop other measures of effectiveness for these activities. Once detected, these indicators should be integrated into operational planning and targeting systems so that appropriate action can be taken.

Enhancements

Marine forces must be organized, trained, and equipped to conduct IO in support of a national or theater IO campaign and in direct support of combat operations. We recognize that, although

resource restraints will remain a prime consideration, our concept for IO must be broadly adaptive to emerging warfighting concepts and changes in technology.

- **Competency**. Recognizing that the many differing definitions and perspectives of IO continue to evolve, we will focus on operationalizing IO. We must make IO make sense to Marines. Its functions can only be adopted if they enhance the operational capability of our MAGTFs. IO must be integrated within the context of our expeditionary heritage and our concept of Expeditionary Maneuver Warfare. The Marine Corps planning process must include IO considerations.

  Marines at all levels need to understand the warfighting implications of new information technology and the global information environment of the future. Awareness will heighten threat appreciation and the importance of adhering to protective measures. Realistic, challenging training will develop the skills required to operate in an austere information environment while mitigating the vulnerabilities inherent in our information systems and processes. Marine forces must remain capable of operating effectively even when their information systems fail. Finally, the Marine Corps professional military education system must prepare leaders at all levels to conduct integrated expeditionary planning and prepare them for the informational demands of future conflict.

- **Development and Experimentation**. We recognize that manning levels will remain austere. Expeditionary Maneuver Warfare will drive changes in the way the Marine Corps organizes for combat. Future changes in technology and the information environment will lead to experimentation with new organizational structures, which will seek to maintain our strengths as a combined arms force while incorporating the benefits of integrated IO.

  Expeditionary Maneuver Warfare will also drive changes in the way the Marine Corps equips for combat. The demands of force protection will require that MAGTF information systems be resilient enough to meet the MAGTF commander's requirements while under stress from adversary action and the expeditionary environments in which we operate.

- **Support**. Forward-deployed MAGTFs will increasingly rely on CONUS-based facilities for a wide variety of support functions. The effectiveness of this support will depend on secure, reliable communications, which also must be resilient enough to function while under stress from adversary action and harsh environments. The complexity of operations in the information age will tax the ability of the MAGTF staff to effectively handle all required tasks. A reach-back capability, also dependent upon secure and reliable connectivity, will be necessary to provide the MAGTF commander with the capabilities he requires to accomplish assigned missions.

Conclusion

The use of information in warfare is not new. Commanders have long recognized the importance of information in influencing the outcome of battle. The on-going information revolution has

evolved from the dynamic intersection of knowledge, communications systems, technology, and a changing world environment. However, despite the changing world environment, this revolution has not yet supplanted timeless military thought.

As we look to the future we see a Marine Corps that continues to build upon its hard-won expeditionary heritage. Our acceptance of operational focus, adaptability, the importance of operational tempo, acceptance of uncertainty, recognition of friction, and the struggle of opposing wills remains.

Information operations will complement our expeditionary culture and philosophy while supporting our concept of Expeditionary Maneuver Warfare. It will enable operational reach, reduce operational pause and help the MAGTF overcome the tyranny of time and distance. Information operations can be executed far from land-based support, provide decisionmakers timely information to support rapid planning, and can extend the influence of the MAGTF beyond the range of its weapon systems. Information operations must project power.

We cannot ignore the changing world environment. We must consider new factors beyond the physical aspects of the battlefield. We must consider informational, political, cultural and moral factors. Our long history of forward presence achieved through deployments and exercise programs has given Marines an awareness of cultural differences and an appreciation of their importance. We must build upon that. We must regionally focus intelligence and create understanding and a pervasive sense of strategic responsibility within our Marines. Information operations will continue to be broadly adaptive to new technology, exercised consistent with our emerging expeditionary and warfighting philosophy, and will enable us to provide the Nation a crisis deterrence and response capability tailored to the challenges of the 21st Century.